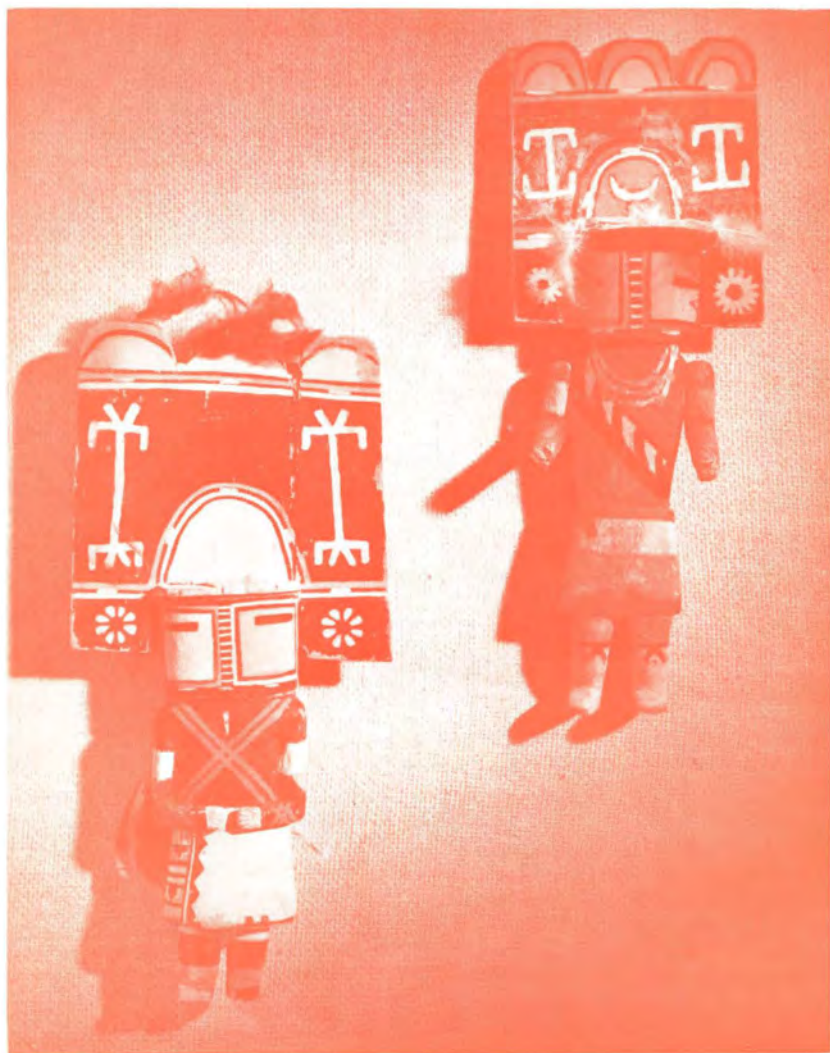


# **museum service**

BULLETIN OF THE ROCHESTER MUSEUM OF ARTS AND SCIENCES

VOL. 39 NOS. 9-10

NOVEMBER-DECEMBER 1966



# MUSEUM SERVICE

*Bulletin of the Rochester Museum of Arts and Sciences*

**Vol. 39 Nos. 9 and 10 November-December 1966**

Rochester Museum of Arts and Sciences, founded by Mayor Hiram Edgerton in 1912, started as the Municipal Museum in Edgerton Park. It was reorganized in 1925 under a Commission and renamed Rochester Museum of Arts and Sciences. The building on East Avenue, the gift of Edward and Matilda Bausch in 1940—Dedicated to a Better Understanding of the Laws of Nature and the Cultural Achievements of Mankind—is operated by the City of Rochester as a community center for research and education.

W. Stephen Thomas, *Director*  
 Alan R. Mahl, *Assistant Director*  
 Mable S. Smith, *Editor*

## Museum Commission

Arthur A. Davis, *Chairman*  
 James P. B. Duffy    Mrs. Joan Lynn Schild  
 Carl S. Hallauer    Mrs. F. Hawley Ward

## Ex Officio

Mayor of Rochester    Supt. of Schools  
 Frank T. Lamb    Herman R. Goldberg

## Rochester Museum Association

*Chartered by the University of the  
 State of New York*

Rochester Museum Association is a sponsoring group of leading citizens who feel that a museum of science, nature and history has a distinct place in our community and is worthy of their moral and financial support. It is entitled to hold property and to receive and disburse funds.

William C. Gamble, *President*

W. Stephen Thomas,  
*Executive Vice-President*

John A. Leermakers, *1st Vice-President*  
 David M. Strassenburgh, *2nd Vice-President*  
 Albert B. Hooke, *Treasurer*  
 Hawley W. Ward, *Secretary*  
 Mrs. Lynn F. French, *Executive Secretary*

## Contents

New Horizons for the Museum at Convocation Time W. Stephen Thomas .....	147
Kachinas in Wood Daniel M. Barber .....	148
The Christmas Tree Gladys Reid Holton.....	153
A Look at the Insects Jerry H. Czech (drawings by author) .....	156
Tools of the Trade Roxann Ware .....	160
Space is "Up" Ian C. McLennan.....	162
Planetarium Technician .....	163
Sam's Last Leap Arch Merrill .....	164
Pits of the Archaic Stage Salvaged From the Farrell Farm Charles F. Hayes, III (drawings by Daniel M. Barber)....	167
Mayor's Proclamation "Know Your Museum Week".....	176
Circulating Exhibits for Schools Take a New Form—The Hinge Case Robert F. Frasch.....	178
Gifts to the Museum July, August September, 1966 .....	180
Special Events and Exhibitions.....	182
Meetings and Sunday Family Programs.....	Inside back cover
Cover Picture...Kachina dolls, <i>Sio Hemis</i> (AE 2245 and AE 2246)	

*Photographs William G. Frank*

Published bimonthly (except July and August) by the Rochester Museum of Arts and Sciences, 657 East Avenue, Rochester, N. Y. 14607. Copyright 1966. All rights reserved. Third class postage paid at Rochester, New York. Membership (includes subscription to *Museum Service*) in the Rochester Museum Association — Patron \$100.00, Sustaining \$75.00, Contributing \$25.00, Active \$10.00 per year.

## New Horizons For The Museum at Convocation Time

Community significance of the Museum's public role is apparent each year at the time of the Museum Convocation. This year the 28th Annual event on Friday, November 4 will see the assemblage of the Board of Museum Commissioners, City officials, the Board of Rochester Museum Association Trustees and a large group of guests. It is notable that a festive and, at the same time, educational MUSEUM WEEK, scheduled to popularize the exhibits and program of the Museum, commenced on October 29 and culminated with the Convocation. For the remainder of the month of November an impressive number of workers will labor diligently to secure memberships and special gifts for the Museum Association's campaign. The increased financial support being sought will not only broaden the present base of the Museum's sustenance, but will provide for the operation of the Strasenburgh Planetarium which, with its Zeiss instrument, will help us to understand more clearly the world of space.

Our Convocation ceremony will witness the presentation by Mayor Frank T. Lamb, in the name of the City of Rochester, the Civic Medal to The Reverend Thomas B. Richards, executive director of the Men's Service Center. In his capacity as head of the principal agency for transient men, the recipient has given tireless devotion to the cause of thousands of homeless persons, and with his staff at Half-Way House on Plymouth Avenue has in the rehabilitation of alcoholics achieved splendid results. Because in these several ways he has lifted the "down-trodden" from despair and given the alcoholic hope, he justly deserves the award given for *Human Welfare*.

Along with the Civic Medal presentation the ceremony will include the recognition of individuals as Rochester Museum Fellows. This distinction will be conferred on six persons who in various ways have either assisted the Museum in its broad programs of education and research or who have achieved success in the fields of the Museum.

The three local Fellows are Charles F. Bridgman, of the Eastman Kodak Company, for research in X-ray applications; John Warner Brown, of the *Rochester Times Union*, for ornithology; and Dr. Robert E. Marshak, distinguished professor of the University of Rochester, in atomic physics. Out-of-town Fellows are Miss Anna K. Cunningham, New York State Supervisor of Historic Sites, Mr. Fred Hall, director of Buffalo Museum of Science and Mr. Wilbur E. Wright, director of New York State Parks.

A special feature of the evening will be the Convocation address by Dr. William E. Swinton, former director of the Royal Ontario Museum in Toronto and now professor at the University of Toronto. Our speaker who will talk on "New Horizons for Museums" believes that the museum is "one window that is available to the people of the world where knowledge can be seen, where some attempt can be made to interpret it and where there can be some meeting between town and gown, the world of the academic and the world of ordinary people."

—W. STEPHEN THOMAS, *Director*

## Kachinas in Wood

By Daniel M. Barber,  
Junior Anthropologist

*It is with sincere regret that we announce the resignation of our junior anthropologist, Daniel M. Barber. He has accepted the post of draftsman-photographer, a newly created position in the department of archaeology at Colonial Williamsburg, Inc. Mr. Barber joined the museum staff in June of 1963. He contributed archeological research in the laboratory and in the field, and his scholarly writing and art illustrations have appeared in MUSEUM SERVICE. His work also included exhibit installation in the Hall of Man.*

Atop the dry and dusty, windswept mesas of northeastern Arizona where the Hopis have made their home for forgotten generations there exists a cult called *Kachina*.

The word *Kachina*, which in Hopi means "Life Father" or "Spirit Father" (Dockstader 1954:9), has three separate yet related meanings. It may refer to a supernatural being, an impersonator of that spirit or a doll which is carved to resemble the impersonator in his gaily colored costume.

In the first instance it applies to a group (250 or more) of supernatural beings who live in the San Francisco Peaks near Flagstaff and who visit the Hopi (as well as the Zuni), remaining with them from mid-December (Winter Solstice) to mid-July (Summer Solstice). These spirits are not considered gods nor are their relations with the various forces in nature clearly understood by those who believe in them. Therefore the *Kachinas* are not worshipped in any way but are simply envisioned as friends endowed with human attributes and are given individual names. During the various *Kachina* religious ceremonies these spirits, impersonated by male members of the tribe, dance, sing and bring gifts to the children.

This brings us to the second concept associated with the word *Kachina*; that is, the person who impersonates the supernatural being. Whether the spirit itself is male or female it is always impersonated by a male member of the tribe. When a man impersonates a *Kachina*, he actually becomes a *Kachina* and loses his own personality. (Wright and Roat 1962:6). The male costume of the *Kachina* consists basically of a mask (usually leather), a kilt of white cotton and a sash tied about the waist, usually hanging at the right side. The female costume of the *Kachina* also consists of the mask but is distinguished by a black dress, shoulder blanket, woven belt usually white buckskin boots (Wright and Roat 1962:10).

Kachina ceremonies are most elaborate among the Hopi, less so with the Zuni and almost non-existent as one goes further east. There are about three major Kachina religious ceremonies connected with the Kachina spirits: *Soyala* or the Winter Solstice rites held in December; *Powamú* in February and *Nimán* or Going Home ceremony in July. All Kachina ceremonies are primarily intended for rain although other functions are also incorporated into them (Wright and Roat 1962:4).

One of the most important gifts which the Kachinas bestow upon the children during the various dances is the Kachina doll—a third concept implied by the term Kachina. The Hopi refer to the Kachina doll as the *tihü*, which simply means “the figurine” (Dockstader 1954:9). No one really knows exactly how old the concept of the *tihü* is but it certainly is not so old as the Kachina Cult itself. Frederick J. Dockstader in his book entitled “The Kachina and the White Man” expresses the belief that elaboration and sculpturing of the *tihü* was greatly affected by the introduction of Catholic religious figures by priests and parallels, in many ways, the development of the *santo* in New Mexico. He further suggests that the Zuni *santo* could have developed into the Zuni *tihü*. (Dockstader 1954:98). Whatever the origin or influences, the *tihü*, as we recognize it today, did not appear until the mid or late 19th century (Dockstader 1954:104).

The *tihü* is a representation of the Kachinas who appear during the religious dances (Wright and Roat 1962:2). Such a close relationship exists between the figure and the Kachina impersonator that both are called, in fact, *tihü* (Dockstader 1954:96). The *tihü* (dolls) are primarily ceremonial gifts and secondarily educational devices by means of which the child may learn the costumes of the various Kachinas. They are not idols nor are they treated as mere toys

(Wright and Roat 1962:17).

The *tihü* is carved from cotton wood root and given a costume to duplicate that of the respective Kachina impersonator. Rochester Museum of Arts and Sciences has in its collection 16 Hopi and Zuni *tihü*, all housed in the division of anthropology.

## Hopi Kachinas

*Hahai-i Wuuti* (AE 27a) or Kachina Mother is of the flat type given to Hopi infants. This tall (12.2 cm.) *tihü* resembles the *püchtihiü*, thought to be one of the earliest types (Dockstader 1954:99). It is decorated with vertical orange stripes; black and orange hair and facial features; ochre colored left upper arm and right lower arm. Kachina Mother is the principal actor in the Water Serpent Ceremony but appears in others also. (Colton 1951:31). Another flat-type Hopi *tihü* is *Koyemsi*, the Mud-Head Clown (AE 27b). Characteristically Koyemsi has a reddish brown mask and body, one gourd over each ear and one on top of the head. These Kachinas are the most common of the Hopi clowns and appear in most mixed-dances and sometimes bythemselves (Colton 1951:34).

The *Hü tihü* (AE 889) identified as such by Harold S. Colton in a letter of November 3, 1953 is also Hopi. It has a black mask and horns on either side of the head. Another characteristic is a turkey track in the center of the forehead. He carries yucca leaf whips with which to whip children during the Bean Dance (Colton 1951:23).

The only *tihü* which is currently on exhibit in the Pueblo alcove of the Hall of Man is *Hemis/Niman*, the Jemez Kachina (AE 890). This *tihü* has an elaborate tableta surmounting the mask and painted upon it are cloud and phallic symbols. The mask is divided into two color zones vertically (one half yellow, the other blue).



Hemis wears a kilt, sash, bandolier and red moccasins. His body is black and he carries a large *paho* or prayer stick decorated with the symbols of clouds and corn. *Hemis* is usually the principal character in the *Niman* or Go Home dance (Colton 1951:50).

Some Hopi Kachinas appear only rarely. Such is the case with *Salako Mana*, the Salako Maiden who danced her last at Shungapovi in 1936 (Colton 1951:47). Our *tihü* (AE 1253) has an elaborate tableta containing cloud symbols; a painted chin consisting of black and yellow lines radiating from the center of her inverted U-shaped mouth. She wears a painted robe of eagle feathers (Colton 1951:47).

*Tihü* (AE 9081) has been identified by Harold Colton in 1953 as a *Rügan B* or Rasp Kachina, so named because of the musical accompaniment of a rasp-like instrument during the dance. This example has a white mask with blue and yellow corn symbols on the cheeks. It has a tube mouth, wears a kilt, has a red body with one yellow and one blue shoulder (Colton 1951:71). *Kokopölö Kachina* (AE 9082) also identified by Colton (Colton 1953) is variously known as Assassin, Robber Fly or Humped-back Flute Player. Our *tihü* has a black mask with a single white line running from the mouth to the top of the head. He wears a breach clout and a bandolier in addition to a carved ruff simulating an animal skin. This Kachina appears in the mixed Kachina dances (Colton 1941:35).

The *Ang-ak-china* or Long Haired Kachina (AE 9083) who appears at the ordinary or regular (one day) ceremonies has a blue mask and long black hair falling behind. From under a colored-panel mouth flows a rather sparse feather beard. He wears a white kilt and a sash. His body is black, with yellow shoulders and forearms (Colton 1951:49). Identified by Colton (Colton 1953) the *Tuskiapaya* or Crazy Rattle Kachina (AE 9084) has a blue mask with popeyes and a rectangular

beak mouth. Across the eyes is a band of alternating white and black zones. He wears a kilt and sash over a red body. The shoulders are yellow (Colton 1951:72c).

*Soyok Mana* (AE 9085) so described by Colton (Colton 1953) is a female *tihü*. She wears a black mask with yellow eyes. Her hair is in maiden whorl. Her black dress is partially concealed by a maiden shawl falling from her shoulders (Colton 1951:27). The *Kawaika* or Santo Domingo Kachina (AE 9080) has a large tableta on each side of the head. These are painted with cloud symbols. He has a beak mouth and a green face. His body is painted orange with yellow shoulders and forearms. About his waist hangs a kilt. *Kawaika* appears with the Long Haired Kachina (Colton 1951:64).

## Zuni Kachinas

In many cases the Zuni *tihü* can be identified by its movable arms. Such is the case with *Hilili Kohana* (AE 579). *Hilili* has a white mask with a snake over each eye. Over the right ear is a disc painted with a sun symbol and with feathers attached. He has a large fur mouth, and probably, once, a beard. His body is painted red but the arms and legs are yellow. In each hand is a yucca stem. The Zuni say that *Hilili* was borrowed from the Hopi but the Hopi have reversed the story (Bunzel 1932: 1070). Another *tihü* with movable arms is *Sälimopiya*. Our example has a yellow mask and therefore called *luptsinona* (AE 676). This *tihü* has a large collar of crow feathers, big eyes and a long snout. His body is white and he wears an embroidered kilt. In either hand is a yucca stick with which to whip people. The real *Sälimopiya* only come once every four years. "They come at Winter Solstice with *Tcakwena okä*... never come with the mixed dance or with the rain dancers... always make people unhappy and their breath brings the



Hopi and Zuni Kachina Dolls in the collection of the Rochester Museum of Arts and Sciences: (left to right, top to bottom)—Salako Mana (AE 1253), Tuskiapaya (AE 9084), Kokopölö (AE 9082), Soyok Mana (AE 9085), Hahai-i Wuuti (AE 27a), Koyemsi (AE 27b), Ang-ak-china (AE 9083), Hü (AE 889), Rügan B (AE 9081), Kawaiika (AE 9080), Sälimopiya (AE 676), Hilili Kohana (AE 579), Hemis/Niman (AE 890), Nahalico (AE 677).

wind, therefore they never come in summer." (Bunzel 1932:989).

*Nahalico* or Crazy Grandchild (AE 677), besides having movable arms has a white mask painted with floral designs in yellow, blue, red and black, surmounted by turkey feathers. He has a red body with yellow fore-arms and wears a kilt with a sash, tied on two sides. Across his chest is draped a bandolier of braided wool and around his neck a necklace of berries and beads. *Nahalico* dances at supplementary or extra dances (Bunzel 1932: 1065).

Pictured on the front cover of this issue are two Zuni *tihü* without movable arms. Both are *Sio Hemis* or Zuni Jemez Kachinas (AE 2245 and 2246). Each is characterized by the decoration of the mask which consists of two vertically divided facial zones, one red, the other blue and by a large *tableta* decorated with cloud symbols and flowers. The decoration on the *tableta* differs from that of *Hemis* Kachina of the Hopi by the absence of phallic symbols. *Sio Hemis* appears in the regular Kachina dances (Colton 1951: 56).

*A one-case display of KACHINA DOLLS selected from the museum's collection will be on view in the Hall of Man through January.*

## References

- |   |   |
|---|---|
| Bunzel, Ruth L.<br>1932                   | <i>Zuni Kachinas. Bureau of American Ethnology Annual Report No. 47.</i> Pp. 837-1086. Washington, D. C.                          |
| Colton, Harold S.<br>1951                 | <i>Hopi Kachina Dolls.</i> University of New Mexico Press. Albuquerque, N. M.   |
| 1953                                      | Personal communication to Alfred K. Guthe. November 3.  |
| Dockstader, Frederick J.<br>1954          | <i>The Kachina and the White Man. Cranbrook Institute of Science, Bulletin No. 35.</i> Bloomfield Hills, Michigan.                |
| Wright, Barton and<br>Evelyn Roat<br>1962 | <i>This is a Hopi Kachina. Museum of Northern Arizona.</i> Northern Arizona Society of Science and Art, Inc., Flagstaff, Arizona. |





THE CHRISTMAS TREE.

Godey's Lady's Book, December 1860

## The Christmas Tree

By Gladys Reid Holton,  
Curator of History

The Christmas tree is such an important part of the festivities today that we can scarcely believe that it is of comparatively recent origin in America but changes take place so rapidly in our society that it is not to be wondered at.

To the Germans who first settled in Pennsylvania is given credit for bringing the Christmas tree to the New World. The custom is said to have been started by Martin Luther who, while walking home one clear, cold Christmas Eve, thinking how beautiful the stars were, decided to share this inspiring spectacle with all of his loved ones, so he cut a tree and presented it, glittering with star-bright candles, to his family.

The tree as we know it in America was trimmed with candle holders which clamped on the branches and held lighted candles. There were painted lead ornaments in the form of stars, chains, medallions and toy watches; cookies of various shapes decorated with colored sugar; tinsel-outlined angels suspended from metal rings that could easily be hung on the branches, cornucopias filled with candy, nuts and popcorn, small wax angels; toy horns, rattles, drums; dolls and animals, and always the bright tinsel star at the very top. Later blown glass ornaments, gaily painted, were used to decorate the tree around which the whole family enjoyed the holiday.

It is interesting in doing research on this subject to find an occasional pic-

ture in the *Godey's Lady's Book* which shows how the Christmas trees were decorated. *Godey's Lady's Book and Magazine* for December, 1886, suggests decorations also for beneath the tree. "A tree of moderate size can be conveniently placed in a small tub filled in with stones, coal or anything to keep it secure and steady. Some colored paper can be readily pasted over the tub, so as to hide unsightly crevices, and some moss laid over all. A little garden or farm at the foot of the tree made out of paper furnishes the children much pleasing amusement; and mosses, minerals, shells and toy animals, make a fine landscape, with scraps of evergreen for trees, and some looking-glass or silver paper for a lake or river. A house on a mossy mound with a few dolls, woolly sheep or chickens disposed on the declivity, are regarded as a great achievement, while a fence cut like palings out of paper, manufactured from tiny twigs, or a wall built out of small pieces of stone, will furnish a child an amount of gratification utterly inexplicable to the grown up mind."

Gifts were placed under the tree—doll carriages, furniture, dishes, music boxes, as well as other real and toy musical instruments.

Christmas was a quiet, religious day in early Rochester. The Zion German Lutheran congregation at the corner of Grove and Scio Street had the first Christmas tree in 1840.

A traditional German Christmas carol, "O Christmas Tree," (O Tannenbaum), commemorates the Christmas tree:

O Christmas tree, O Christmas tree,  
Thy leaves are never changing,  
They all are green when summer's here,  
They all are green in winters drear.  
O Christmas tree, O Christmas tree,  
Thy leaves are never changing.

O Christmas tree, O Christmas tree,  
Much pleasure dost thou bring me.  
For ev'ry year the Christmas tree  
Brings to us all both joy and glee.  
O Christmas tree, O Christmas tree,  
Much pleasure dost thou bring me.

O Christmas tree, O Christmas tree,  
Thy candles shine out bravely.  
Each bough doth hold its tiny light,  
That makes each toy to sparkle bright.  
O Christmas tree, O Christmas tree,  
Thy candles shine out bravely.

O Christmas tree, O Christmas tree,  
How strong and true God made thee.  
Thou bid'st us all to faithful be,  
To trust in God unchangingly.  
O Christmas tree, O Christmas tree,  
How strong and true God made thee.

*The story of CHRISTMAS TREES OF THE  
MID-19TH CENTURY will be on exhibit in  
the Hall of Culture History through December.*

## A Look at the Insects

By Jerry H. Czech,

Assistant Curator of Biology

The next time you spot a six-legged creature crawling across the floor, before you scream "bug," and stomp on it, pause for a second to gaze upon one of the most marvelous creatures ever created. I'm not particularly saying that stomping shouldn't be the final outcome, as some insects cause damage about the house, but a better understanding of the insects as a whole could greatly enhance one's appreciation of his total world, and perhaps even spare the life of a small worker on "his side."

It is unfortunate that so many people are brought up with a conditioned fear of nearly all insects. A few kinds bite or sting, and these seem to give all the rest a bad name. A similar crime is present among the people who kill all snakes because a few are poisonous. A small boy stung by a bee, for what he supposes is no reason, is reasonably certain to cast an evil glare upon insects thereafter. If he knows no better, the question will always remain in his mind: does it sting? Anyone who has ever had much experience with animals knows that the first question 99% of the people ask is: does it bite; or, can it sting? Fellow biologists and naturalists will certainly appreciate my previous sentence.

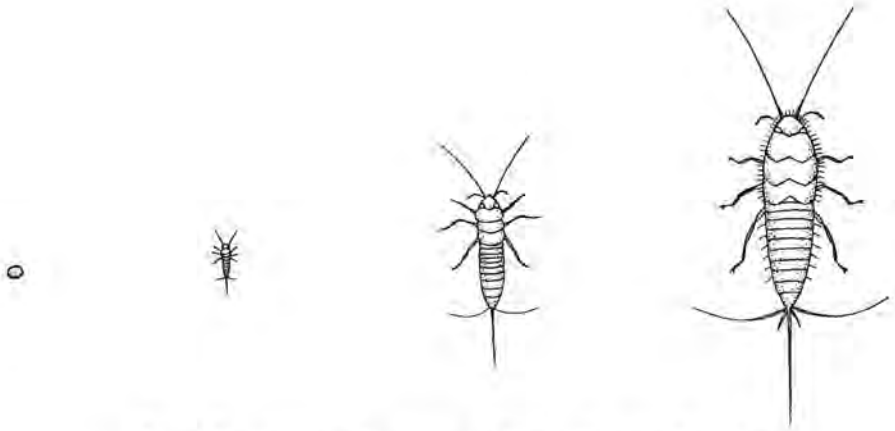
When it comes to speaking about successful forms of life on our planet, the insects hold their own near the top of the list. Already well developed

over 300 million years ago, they remain relatively unchanged in many forms today. Ancestors of many present insects were flitting about when the giant reptiles ruled the earth. In terms of earth age, man has only been here briefly, and chances are the insects will still be going strong when, and if, the "ruling human race" gasps its last breath of atmosphere.

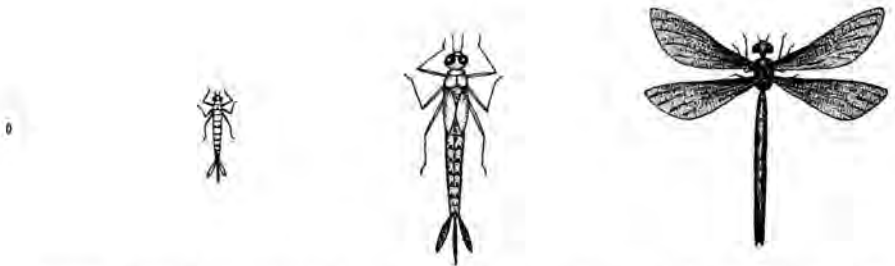
Strange though it may seem, it may be that earth is truly a place where simpler things do best and complexity fails. The worldwide problems man has gotten himself into during his earthly caper should certainly help demonstrate this possibility.

The key to the insects' success are many. Possibly their business-like manner, seemingly removed from the worries and emotions associated with mankind, is a major factor. Each has its special function and devotes nearly all possible time toward performing it with untiring vigor not unlike a miniature machine. Certain keen senses, adaptability, design of structure, and high reproductive rate all play important roles in making survival possible.

While a number of insects, such as ants, wasps, and bees, often live in a colony situation, most dwell in relative isolation, encountering other members of the species only by chance or for mating. Flight is enjoyed by many insects in the adult stage but serves to provide a means of rapid locomotion to



Direct Development (egg, young [2 stages], adult Silverfish)

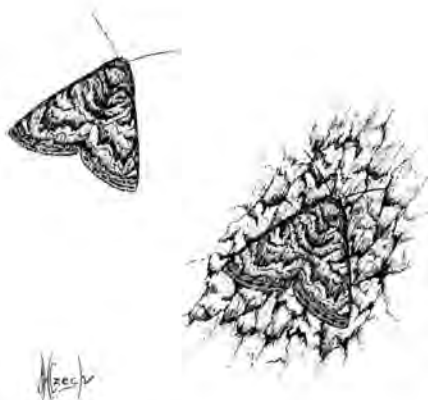


Incomplete Metamorphosis (egg, nymph [2 stages], adult Blackwing damselfly)



Complete Metamorphosis (egg, larva, pupa, adult IO Moth)





Protective Coloration—Underwing moth (left); camouflaged on tree bark (right).

mate, distribute eggs, or feed. They probably don't really "enjoy" it at all.

It is generally accepted that many insects have evolved an amazing form, coloration, posture, or defense to aid their survival. One may find caterpillars resembling snakes and twigs, flies resembling hornets, and moths resembling tree bark or leaves. Insects showing several highly different forms during development may resemble two equally different objects. Mimicry often works well, and many a Viceroy Butterfly has been passed up by a hungry bird due to its resemblance to the bitter tasting Monarch Butterfly.

One thing many people think of in connection with insects is sound. This is not an unwarranted connection, for many of them do make noise and do so very well. The Cicadas, for instance, produce a tremendous sound for their size and are perhaps the noisiest of all insects. Many members of the grasshopper, katydid, and cricket groups (*Orthoptera*) can do nearly as well. The way in which the sound is produced is more often than not even more amazing, usually by vibrating

tiny membranes or rubbing wings. To actually see the insect before your eyes and hear the sound throbbing in your ears makes one often think: I'm just glad they're not much larger.

One of the problems in learning to identify insects is that some change very little throughout life while others pass through several highly different forms. A small white maggot does in no real way resemble a house fly, for instance, yet they are the same insect. The Cecropia Moth is one of the most beautiful *Lepidopterans* but spends its larva stage as a rather obnoxious looking caterpillar covered with tubercles of various colors. The skin of the larva is blue-green when it has attained full size and in no way resembles the warm brown, red or white of the adult moth.

Basically, insects develop from egg to adult in various ways. Some merely increase in size as does the Silverfish. This is called direct development. Others undergo more of a change or metamorphosis, and a change in shape accompanies a change in size.

Grasshoppers, crickets, true bugs,

Protective Form—Caterpillar  
resembles twig (right).



dragonflies, etcetera undergo what is called an incomplete metamorphosis. The young (or nymphs) resemble the adults but lack complete characteristics, such as fully formed wings, until the adult stage. Ants, bees, butterflies, beetles, etcetera have a complete metamorphosis and change form greatly three times after hatching. The larva, pupa (resting stage when most are non-feeding and inactive), and adult forms usually bear no great resemblance to each other. The pupa stage is often, but not always, covered by some material or cocoon spun by the larva for protection as the insect is undergoing delicate changes and is incapable of protecting itself.

The actual growth of an insect is accomplished by a series of skin sheddings. While the tough outer skeleton (exoskeleton) gives the insect better protection than an inner one such as ours, it does not grow as the insect grows. Consequently, the insect grows within its shell-like covering until size requirements demand a bigger one. Hormones then begin formation of a new and slightly larger skin just

under the old one. When the new skeleton is sufficient to protect the insect, the old skin splits down the back and a somewhat larger insect, pulls itself free.

The number of different insect species now known is around 700 thousand, and new ones are found each year at a surprising rate. Anyone wishing to find an unknown animal might do well to concentrate his search in the insect direction, especially in the tropics where longer spells of hot weather and highly varied habitats provide a much greater assortment.

Anyone bored with the modern, high-paced, space-age humdrum might find that some pretty fantastic things have been going on right in his back yard if he would only look and learn. The more one reads about these creatures, the more his interest and amazement are likely to grow. Man has accomplished much, to be sure, but the day he splits his skin and emerges into the world of insects will be the day he finds a world of "fiction" come true.



## Tools of the Trade

By **Roxann Ware,**  
Artist Preparator in Charge of  
Special Exhibits

*We are saddened by the sudden tragic death of Roxann Ware in an airplane crash on November 7, 1966. Miss Ware was a highly talented artist and designer. As a member of the museum staff since April 5, 1965, she planned and executed a series of important exhibits which had an educational impact and were attractive and appealing to the visitor. The museum and its ever-widening public have suffered a great loss in her death.*

---

TOOLS OF THE TRADE will remain on view in the special exhibition gallery on the second floor through the month of December.

A tool is an object used by man to accomplish a desired goal. It functions as an intermediary, but may also be the end product, as tools make other tools. Many things other than hand tools may be classed as tools under this broad definition. To tell the complete story of the tools of man you would need an entire museum. The story begins with the first stone picked up by man and used as a tool, probably something used to break open an item to be eaten. The story continues through all the stages of man's technical development and will continue into the future as long as man learns more about his environment and continues to find new ways to use the available resources. A selection of hand tools from the museum's extensive collection has been included in the **TOOLS OF THE TRADE** exhibit. The old hand tools, particularly the woodworking tools, may be appreciated from the aesthetic as well as the technical point of view.

Man's tools are important because their development parallels man's own. As his skills developed he devised better tools which in turn increased his capabilities. Man is able to use tools because of his structure. He has a short pelvic bone which enables him to stand upright which in turn frees his hands. His hand itself is a skillful tool. Because he has an opposing thumb he is able to grasp objects in his hands. Without this ability he could not use a tool. Man's superior mental capacity also plays an important part in the development of tools. Because he is capable of conceptual thinking, he can foresee a desired goal and then systematically accomplish this end. This is essential for the improvement of tools because it means he can design a special tool to do a specific task.

As man developed he discovered new materials and learned how to use them. Tools reflect this advancement. In each Age they were fashioned from the new materials, which not only im-

proved the existing tools but made possible the development of new types of tools. One of the ways archeologists can tell about a past culture is through the study of its tools. They can tell the approximate age of a culture and the degree of development by both the kinds of materials used to fashion the tools and by the degree of technical ability shown by the tool itself. Tools are also important to archeologists because they frequently are the only objects that remain intact from an ancient civilization.

As man increased his knowledge of the world around him he learned the basic principles of mechanics. This meant he could accomplish more in shorter periods of time with less human effort. One of the major advances in development occurred with the invention of the wheel in 3500 B.C. After this time devices using geared mechanisms began to evolve. Also, at this same time man began to use animals as beasts of burden. This further freed him from the constant struggle for his own survival and gave him time to begin exploring ideas and to be creative. It was not until man reached a high level of development in terms of mechanical and technical skill that he was free to explore Philosophy, Art and Science which enriched his life and helped to develop his existing skills to a greater degree of refinement.

By the time of the Industrial Revolution man had developed tools into complex machines. With his increased knowledge and technical skills man has been able to devise endless kinds of machines capable of performing highly specialized tasks with a great degree of accuracy. Space vehicles and satellites are examples of modern man's sophisticated tools. They dramatically symbolize our present high degree of development of technical skill and help man to gather exact data about his universe. We now have exact information in areas where we once had only speculation or dreams.

## Space is "Up"

By Ian C. McLennan,  
Director, Strassenburgh Planetarium

During the past summer, I had the opportunity of visiting a number of planetariums in Hawaii and Japan. While in Japan, my task was to represent the interests of the City of Vancouver, Canada, for whom I have been acting as a technical adviser on a new planetarium development, thus necessitating a visit to various manufacturers of planetarium equipment.

One of the unexpected hazards of visiting a Japanese factory (if you happen to be six feet tall) is that all the doors are 5'11" high. On more than one occasion, while proceeding from one room to another, my head crashed into the top of the door frame. On hearing the ominous "thud," my hosts turned around, and seeing me bent over clutching my head, dutifully bowed in courteous acknowledgement.

An uncautious adventure into the exotic culinary offerings of a restaurant in Hiroshima resulted in a near-disastrous case of food poisoning incapacitating me for a day in a hospital where no one spoke English. It is not a source of pride to admit that the extent of my Japanese vocabulary before this experience was limited to "hello," "goodbye" and "take it easy!"—a phrase that is particularly useful in communicating with Tokyo taxi drivers.

Having survived this experience, I pressed on trying to adhere to an almost impossible schedule of plane-

tarium visits—nine in all—from almost one end of the country to the other.

The Japanese planetarium performances are rather mechanical and not too exciting. It was possible, however, to glean the nucleus of a good production idea from time-to-time, which could be expanded upon when Rochester's planetarium opens in 1968. Some of the Japanese auxiliary equipment (showing the path of a comet through the solar system as an example) was particularly interesting as we will soon be adopting similar equipment in our installation.

It is not surprising that the artistic nature of the Japanese people found a medium of expression in astronomical exhibits in the various planetariums; many useful and creative display techniques were noted.

My trip to Japan concluded with a visit to the beautifully appointed home of Dr. Seizo Goto, the world-famous scientist, inventor and diplomat. The graceful charm of his home reflected the warmth of the entire family. It was a pleasant, indeed, memorable experience.

En route to Japan, I stopped over in Honolulu briefly to inspect the Kilolani Planetarium, which is part of the Bernice P. Bishop Museum complex. It was a pleasant surprise, considering the late hour of my arrival, to be met at the airport by Mr. Will Kyselka, assistant director of the planetarium. Reflecting the hospitable spirit for which the Hawaiians are justly famous, Mr. Kyselka offered me the use of his car and guide (Suzy Wong, believe it or not) who took me on a complete tour of Oahu; including, of course the planetarium.



## Planetarium Technician



John J. Paris

Dr. John A. Leermakers, chairman of the planetarium planning committee of the Rochester Museum Association, has announced the appointment of John J. Paris as the technical supervisor of the Strasenburgh Planetarium.

Mr. Paris held a similar position at the Burke Baker Planetarium in Houston, Texas before accepting the Rochester post. Prior to that he was chief technician at the McDonnell Planetarium in St. Louis, Missouri. Mr. Paris also was responsible for the installation of much of the equipment in the recently opened Hansen Planetarium in Salt Lake City, Utah.

Mr. Paris will join the Rochester Museum Association in his new capacity November 14. Among his duties will be supervision of the equipment maintenance program as well as the construction of special-effects projectors which will recreate astronomical phenomena on the inside hemispherical dome of the Strasenburgh Planetarium.

The new appointee, whose original speciality was airplane maintenance, has been interested in astronomy for more than twenty years. He is a ham radio operator (WA5PPU).

Mr. Paris was in Rochester recently for technical planning sessions with the planetarium director, architects and electrical engineers.



## Sam's Last Leap

By Arch Merrill,  
 Sunday Writer and Former City Editor,  
*Democrat and Chronicle*  
 Fellow of Rochester Museum

Had Sam Patch's second leap over the Genesee Falls on Friday, the 13th of November, 1829, been successful, Rochester would have been just another town where the young daredevil performed.

But his dramatic death in the foaming water, watched by thousands, put Rochester and its waterfalls into the national spotlight. It was the sensation of the time and gave birth to a spate of editorials, sermons and legends, even a novel by William Dean Howells. Through the 1830's and well into the 1840's, people journeyed to Rochester just for a look at the scene of Sam's last leap. For years Central trains stopped so that passengers might get out and visit the nearby historic site.

Samuel Patch, a native of New England, worked in cotton mills as a spinner until he went into the stunt business. He was already famous when he first came to Rochester in the Autumn of 1829. Although still in his twenties, he had made spectacular jumps over cliffs and cataracts in New Jersey and earlier that fall of 1829 had twice leaped from Goat Island into Niagara's tossing waters. He put Rochester and its waterfalls next on his agenda.

So accompanied by a pet bear and a pet fox, Sam arrived in the booming young flour milling town of Rochester

one day in late October. Careless of dress, uncouth in manners and with a weakness for the flagon, he was not a prepossessing individual. He unquestionably had the redeeming trait of physical courage and had a jaunty way with him.

In Rochester the Jersey Jumper fell in with a group of young sporting bloods who hung out at a tavern. They promised to promote his first jump over the upper Genesee Falls. November 6 was the date set for the stunt. Three thousand persons saw a confident Sam Patch, wearing his customary kerchief and sash, lead his pet bear to the jutting rock over the falls and toss the animal into the water. The bear swam safely to shore. After a bow to the multitude, Sam poised gracefully and leaped. His head bobbed in the river several rods downstream. Scorning a small boat waiting to take him aboard, he swam and waded to shore while the crowd cheered.

That triumph led to the announcement of another and higher jump at the same place. Flouting superstition, he chose Friday, the 13th of November, as the date. Between jumps, the playful Patch scared his promoters by plunging into the Erie Canal off the Fitzhugh Street Bridge and hiding under the span until the frantic searchers found him.

November 13 was a raw, bone-chilling day. Still some 7,000 persons came by stage coach in horse and wagon, on horseback and afoot, to the jumping-off place. A 25-foot platform built on the rock above the chasm stretched the height of this second leap to 125 feet. At 2 p.m. Sam climbed the scaffold to the platform. Besides a woolen jacket and a skull cap he wore two articles borrowed from Rochester admirers—white pantaloons, part of a band uniform, and a black silk kerchief which served as a sash.

Some of those in the vast audience thought Sam swayed a little and sur-

mised that he perhaps had quaffed too long at the tavern. His friends insisted that he had drunk only one glass of brandy to fortify himself against the cold. As was his custom before he leaped, Sam made a little speech, the tenor of which was that Napoleon and Washington were both great men and great generals but "neither could jump the Genesee Falls."

"That I can do and will," he shouted. Those were his last words on earth. He leaped but without his usual arrowy precision. His arms parted from his sides and he struck the water obliquely with arms and legs extended. When he failed to rise from the river, a gasp of horror came from the crowd. As his advance notices had unwittingly forecast, it was Sam's "last leap."

On St. Patrick's Day of 1830, a farmer at Charlotte, breaking the river ice to water his horse, found the body of the daredevil. Patch was identified by the borrowed pantaloons and kerchief.

The homeless leaper of cataracts was buried in Charlotte's old River Street Cemetery beside the Genesee. For years a board marker, on which was inscribed: "Such Is Fame," stood at his grave. After that rotted away, only a tin sign nailed to a spruce tree marked his last resting place.

Across the way from the old cemetery is Charlotte High School. In the 1940's the school's 11th grade English class became interested in the Patch story and resolved that his memory should be honored by a suitable marker. The school's Student Association was inspired to take over the project. As a result the present impressive tombstone, donated by a monument dealer and bearing an inspired plaque, was presented to the city in 1948. Care of the cemetery has since been turned over to Monroe County.

So Sam Patch is not entirely forgotten in the city he made famous 127 years ago.

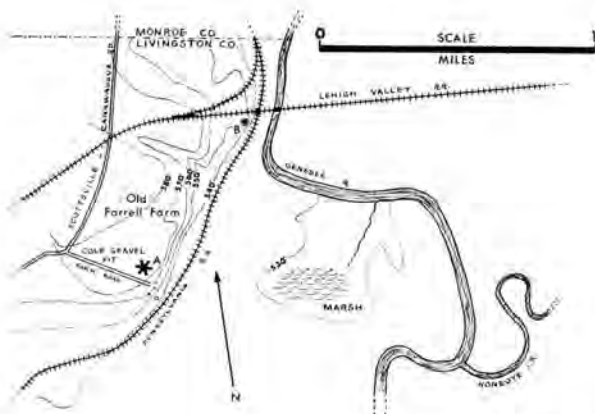
## Pits of the Archaic Stage Salvaged From The Farrell Farm

By Charles F. Hayes, III,  
Curator of Anthropology

In March of 1966 the anthropology division of the Rochester Museum of Arts and Sciences was advised that Indian pits had been uncovered at the Cole Gravel Pit on the former Frank Farrell farm in Caledonia, Livingston County, New York. The author and Daniel M. Barber, junior anthropologist, made a field trip to the site and decided to conduct salvage operations. Immediate action was necessary because the moisture evident in the pits was quickly drying out, thus making these features indistinguishable from the surrounding gravel. Fortunately several representative pits were documented in three days of excavation.

The Farrell farm (Hne 17-1) has been for years a well known area for surface evidence of prehistoric aboriginal occupation ranging from the Archaic to the Late Woodland Stage. Of particular note is the ossuary containing over 15 human burials that was uncovered at the adjacent Coates Gravel Pit (Wray 1964). Sustained Indian use of this area is understandable when one sees its proximity (less than 1 mile) to the Genesee River and its 40' elevation above the river's flood plain. In the fall of 1965 the topsoil and some gravel subsoil had been taken off prior to further gravel re-

Site Maps and Drawings  
by Daniel M. Barber.



Frank Farrell Site, Caledonia, New York.  
A—Archaic Pits Excavated by Rochester  
Museum of Arts and Sciences.  
B—Coates Ossuary.

moval in 1966. During the winter of 1965-66 moisture had settled in the soft fill of the pits and, consequently, when spring came the pits dried out at a slower rate than the surrounding gravel.

The evidence which follows has led to the conclusion that these pits were dug and used by people of the Archaic Stage in western New York. This stage lasted approximately from c. 3500-1300 B.C. and in brief was characterized by the existence of small semi-sedentary groups of people with a hunting, fishing and gathering economy. The period shows no evidence of agriculture or extensive village life.

A total of 54 pits or fragmentary portions thereof were mapped in the gravel pit. It is estimated that at least two feet of topsoil had been removed by the machinery from each pit. Since these pits were of varying depths sometimes only a few inches of the bottoms remained. After surveying the

dark spots, six promising ones were selected for intensive analysis. Although all of these were incomplete, it is believed that the characteristics of each, when brought together, give one a good idea of their general internal nature and spatial distribution.

**Pit 1.** The remaining portion of this pit had an irregular oval outline 52" x 56" at the top and the sides sloped to a flattened bottom at an 18" depth. Reddened earth, unburned fresh water clam shells (*Unio complantus*), flint chips, unburned animal bone fragments, fire-cracked rock and a few fragments of charcoal were found evenly distributed throughout the pit. There was not any apparent stratification, lenses of washed-in sand or artifacts save for one piece of worked animal bone exhibiting parallel knife marks on one side.



Cole Gravel Pit  
(looking west).  
Dark spots  
indicate pits.



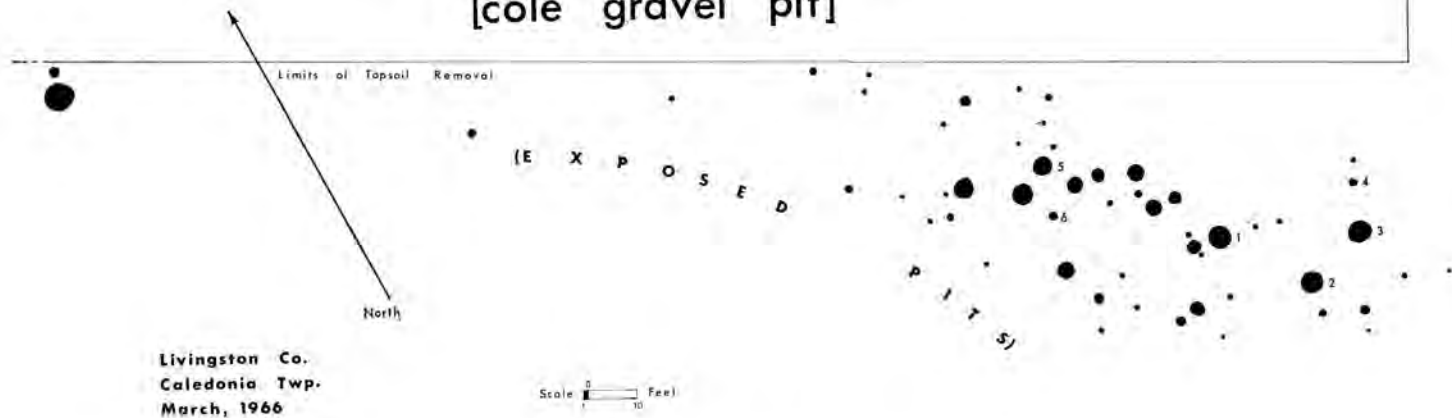
**Pit 2.** This was the most complex pit encountered during the salvage work and required three days of excavation by Daniel M. Barber. At first the area was thought to be similar to several other black spots. It was soon discovered, however, that sterile fill had hidden its true dimensions. This circular pit remnant was 53" in diameter, 41" deep and the sides sloped to a rounded bottom (see cross section).

The machinery had cut into the pit and exposed on the surface a large lens of black loam intermixed with brown loam. Below this and within the brown loam were several reddened soil lenses, one of which was later found to extend upwards to the present pit surface. Below the red lenses was found an ash lens under which was a large layer of black carbonaceous loam filling the bottom of the pit. On the sides of the pit this black loam underlay a sterile fill. This black loam from the 18"-41" level contained the bulk

of the burned and unburned refuse bone, fresh water clam shells, flint flakes and fire-cracked rock. Some bone, flint, shell and fire-cracked rock were also found in the top layer of black loam and in the ash layer. The lower black loam layer contained, in addition, one corner notched and two incomplete side notched flint projectile points, one worked bone fragment, two stone netsinkers, one anvilstone, four bone awls, one bone gouge, one flint knife, and three flint scrapers.

**Pit 3.** An ashy black film speckled with clam shell was found on top of this bowl shaped pit remnant measuring 54" in diameter and 20" deep. The bottom was flattened. Below the ashy black film was a 12" layer of reddened earth and stones containing charcoal fragments, flint flakes, two flint scrapers, one bone scraper, one piece

Frank Farrell Site, Hnc 17-1  
[cole gravel pit]



Rochester Museum

Cross section  
showing moisture  
in fill (Pit 1).



of worked bone, one bone awl fragment and unburned and burned refuse bone and clam shell. At the bottom of this layer were found two flint projectile points, one side notched and one corner notched. The next layer was characterized by 8" of compact stones and ash with a few pieces of fire-cracked rock. Refuse bone, charcoal fragments and fresh water clam shell was sparse in this lower level.

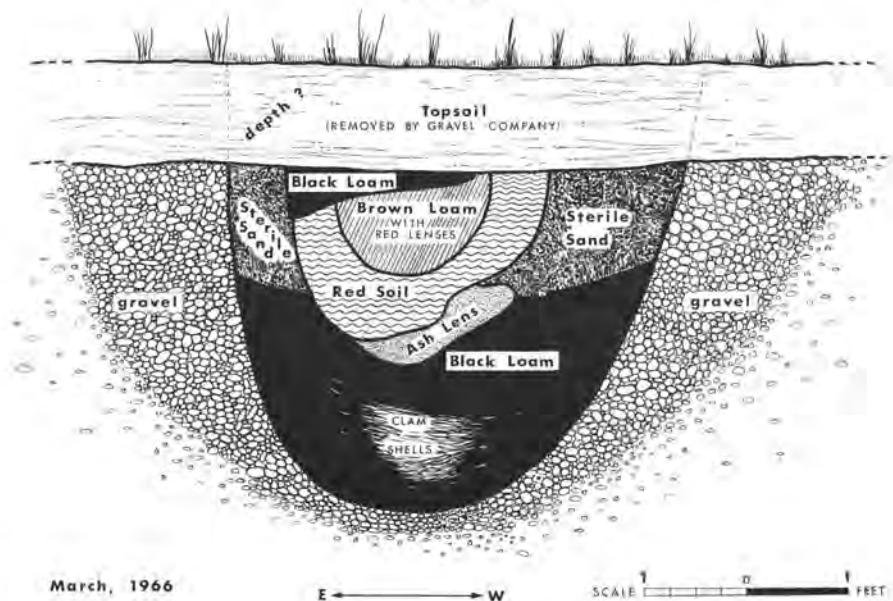
**Pit 4.** The area of this pit exposed by machinery was a 30" x 21" oval with a  $\frac{1}{2}$ "- $\frac{3}{4}$ " thick layer of black earth and fresh water clam shell pieces on top. Below this layer was reddened earth mixed with small stones within which were found one flint knife, flint chips, unburned refuse bone, one flint scraper and a flint corner notched projectile point. The depth of the pit remnant was 13 $\frac{1}{2}$ " and it was bowl shaped. No charcoal or ash was present.

**Pit 5.** This pit was nearly circular in outline, measuring 48" x 52" and 36" deep. A thin film of ashy black earth flecked with fresh water clam shell was over the top. Below this film was a 6" layer of reddened earth and small stones which contained two flint drill fragments and two flint scrapers. The next layer extended 30" to the bottom and was characterized by black ashy loam and small stones. It contained a large piece of deer antler, one flint drill, two flint projectile point blanks, one flint scraper, one flint knife, one bone knife and a large unworked oblong stone possibly a potential grinding tool. Fresh water clam shells, charcoal flecks, flint flakes and refuse bone were found. Fire-cracked rocks were present throughout both layers in the pit.

Soil samples were taken from both the reddened and the black loam layer. The reddened earth had a pH of 8.7 and the black loam pH 8.4 indicating a high alkali level which aided in pre-

Frank Farrell Site, Hne 17-1

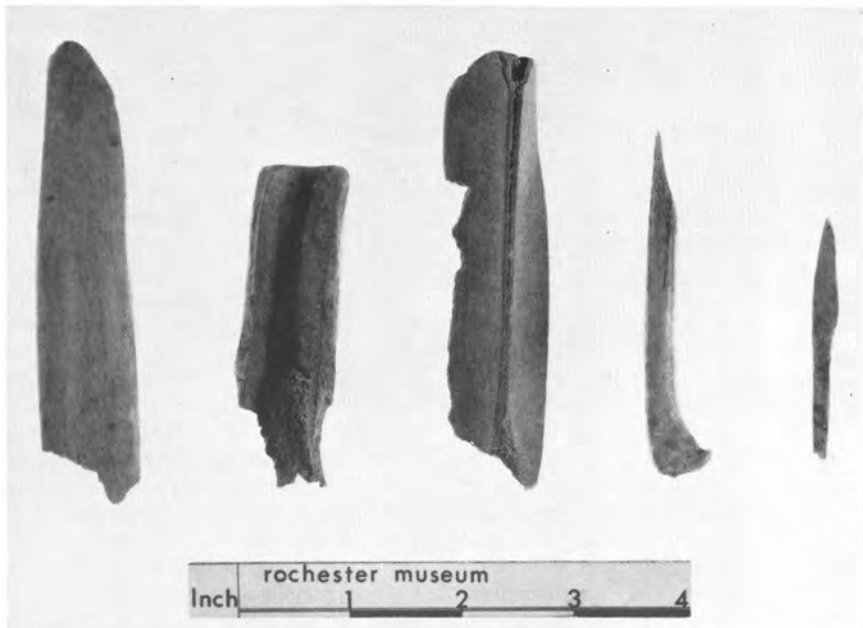
## Pit 2



Detail of cross section (Pit 2).



Flint Artifacts (local Onondaga flint) from Pits at Farrell Site. (Left to right) top—Projectile Points (specimen at top left was excavated by Charles F. Wray, F.R.M.; others are from Rochester Museum excavations); bottom row—Knife, Two Scrapers and Two Drills.



Bone Artifacts from Pits at Farrell Site. (Left to right)—Knife, Gouge, Scraper, Two Bone Awls.



serving the refuse bone. Throughout both layers bits of clam shell and charcoal were identified in abundance although not always visible to the naked eye.

**Pit 6.** This was a bowl-shaped pit bottom 15" in diameter and 6" deep. Across the top was scattered fresh water clam shell fragments. The fill was a homogeneous concentrated ash and black loam. It contained a few fire-cracked rocks, burned and unburned clam shell and refuse bone, flint chips, one corner notched flint projectile point, two flint knives and one pecking stone.

### Interpretations and Speculations

Because of the fragmentary nature of the pit remains, it is difficult to ascertain the exact function of these features. Possibly there were multiple uses for them. The lack of human bone does negate any theories that they were burial pits. All of the pits tested did seem to have one or more of the characteristics of the nearly complete pit, No. 2, although not necessarily exhibiting the same stratification.

It is the writer's contention that the pits tested by the Rochester Museum of Arts and Sciences had originally been dug and utilized for food storage purposes. The absence of leaf mold or extensive layers of sterile soil, perhaps washed in throughout the winter season, leads to the conclusion that the occupation was only during one short summer or fall season at the edge of the Genesee River flood plain. As the hunting and gathering season progressed, some pits eventually became filled with organic camp refuse and occasional ash deposits thrown in from elsewhere. A desire to control odors could be a reason for the sterile earth layers found at intervals throughout Pit 2, for example.

Another use for the pits could have been cooking ovens. The reddened earth lenses may have been the result of fires above, the vestiges of which have been carried away partially by years of plowing and then completely by recent gravel pit operations.

Spatially the pits were spread over an area 260 x 50 feet. Although one has to take into account the possibility that some pits may have been completely removed by machinery, one can see blank areas surrounded by arcs or circles of pits. These areas are less than 20' x 15' and do lie within the range of lodge floor patterns excavated by William A. Ritchie (1965:74) at the Archaic village at Lamoka Lake in Schuyler County. No post molds were found at the Cole Gravel Pit to support this speculation. Also absent was any compact refuse mantle that one might expect over an area of sustained village activity. None of the pits appeared to intrude upon one another. This spatial distribution does help the argument that the site was not occupied very long.

The range of pit diameters (15"-56") and depths (18"-63") at the Cole Gravel Pit compare favorably with those of other Archaic sites in western New York, the nearest one being Woodchuck Hill, 1½ miles directly to the north, where 50 fire pits were recorded (Ritchie 1944: 307).

Although a variety of artifact types were found in the pits, no one specimen can be said to be diagnostic of a specifically recognized Archaic site in the Genesee area. Comparison of artifacts in the collections of the Rochester Museum of Arts and Sciences from Archaic sites at Geneva, Lamoka Lake, Woodchuck Hill and Brewerton indicate relationship, but nothing definite. Projectile points found on the surface of the area by Charles F. Wray before gravel operations commenced were loaned to the Museum for study. They do hint at the possibility that the site may be related to the Vosburg

complex of the Middle Archaic of eastern New York (Ritchie, personal communication).

The comparisons and data on the pits and the few artifacts contained lead the writer to believe that the site represents a variation of the known Lamoka and Woodchuck Hill material. Perhaps additional pits in the area will some day be exposed and yield enough carbonized material suitable for radio-carbon dating as well as diagnostic artifacts which, together, will establish a more exact site date and cultural affiliation.

**Note**—The writer would like to express his appreciation to Mrs. Kenneth F. Wood and Mrs. Robert A. Prisch for their aid both in the field and in the laboratory; to Charles F. Wray of Ward's Natural Science Establishment for his data on the site and identification of the flint; to Burdette Nash of Eastman Kodak Company for the soil analysis.

### References

- |                             |  |
|-----------------------------|--|
| Ritchie, William A.<br>1944 | <b>The Pre-Iroquoian Occupations of New York State.</b> Rochester Museum of Arts and Sciences Memoir No. 1. Rochester, N. Y.   |
| 1965                        | <b>The Archaeology of New York State.</b> Natural History Press, Garden City, N. Y.  |
| Wray, Charles F.<br>1964    | <b>The Role of the Amateur Archeologist, <i>Museum Service</i>, Bulletin of the Rochester Museum of Arts and Sciences, Vol. 37, No. 6, pp. 90-93.</b> Rochester, N. Y. |

# City of Rochester, New York

## OFFICE OF THE MAYOR

### By These Presents, Greetings:

WHEREAS, KNOW YOUR MUSEUM WEEK will be celebrated at the Rochester Museum of Arts and Sciences from October 29 through November 5; and

WHEREAS, your City Museum is for you—for adults, for youth, for family entertainment and learning. Enjoy a walk through its halls of treasures back to primitive culture, to ancient times, to Indian days and Pioneer ways; explore Wonders of Nature and life today in the Space Age. A whole new world opens before your eyes; and

WHEREAS, a model of the Strasenburgh Planetarium, scheduled to open in the spring of 1968, points the way to progress and understanding space science,

NOW, THEREFORE, I, Frank T. Lamb, Mayor of the City of Rochester, New York, do hereby proclaim the week of October 29-November 5, as

### KNOW YOUR MUSEUM WEEK

and urge everyone to visit the Rochester Museum of Arts and Sciences and see the special exhibits, demonstrations, adult and youth programs in action, hobbies on show, and participate in the 28th Annual Museum Convocation on November 4 honoring the Civic Medalist and 6 Fellows (3 local and 3 out-of-town).

IN WITNESS WHEREOF, I have hereunto set my hand and caused to be affixed the Seal of the City of Rochester, at the City Hall on this 11th day of October in the year of our Lord 1966.

Signed: FRANK T. LAMB  
Mayor, Rochester, N. Y.

*The Week was the project of the Women's Council of the Rochester Museum Association. Mrs. Richard Dix Ford served as chairman assisted by Mrs. Hobart F. Whitmore, Mrs. David Somers, Mrs. H. Frank Hicks, Mrs. E. A. Turner, Mrs. Mable S. Smith, Mrs. Paul Spiegel, Mrs. Leland Pflanz, Mrs. Robert F. Goodrich, Mrs. Lawrence Wales, Mrs. Walter Clark and the council president, Mrs. Robert F. Edgerton.*

Mayor Frank T. Lamb signs  
the proclamation for  
*Know Your Museum Week*,  
October 29-November 5, 1966  
before Mrs. Richard Dix Ford,  
chairman (left) and  
Mrs. Robert F. Edgerton,  
president of the  
Women's Council.



The community was invited to "Know Your Museum Week" and responded in great numbers to the series of events.

Youth Day opened the week with science demonstrations and tours of exhibits by the Junior Guides dressed in early American costume.

Twenty-two hobby groups, affiliated with the Rochester Museum Hobby Council, had exhibits and demonstrations.

At Open House on November 1, the museum was a virtual "living museum" with "live" models in the pioneer rooms and shops, and some at work like the tinsmith and the weaver. There was spinning, quilting, pottery making, woodworking and others. Miss Del Logan, an Onondaga Indian, demonstrated the art of making cornhusk dolls. The anthropology laboratory was opened to visitors. Arleigh Hill, in his Seneca costume, spoke of the legends and customs of the Iroquois. Visitors were guided to activity areas by models in costumes.

The model of the Strasenburgh Planetarium and architectural plans and diagrams were on display. Treasures from around the world were featured in The Museum Shop. The 28th annual Convocation and the award of the Civic Medal and six Fellowships was a major event.

Youth activities in archeology, science, puppetry and pioneer history and a lecture-demonstration on Indian symbolism brought Museum Week to a successful close.



New Type of Exhibits Developed for Schools.



## Circulating Exhibits for Schools Take a New Form— The Hinge Case

By Robert F. Frasch,  
Head, Division of Educational Services

For several decades the education division has been developing a collection of school loan exhibits. The exhibits, of which there are nearly 1800, are in the form of dioramas, boxes of objects, models, animal and bird mounts or charts and maps. Such a rich variety of forms and topics offers teachers an opportunity to select more exactly the type of objects needed in the classroom.

The hinge case is the most recent innovation in loan exhibits at Rochester Museum of Arts and Sciences. It represents decades of experience and months of intensive planning. Problems involved in creating such an efficient traveling exhibit are difficult to an extreme degree because they include a mass of contradictory demands. On one hand, the case must be super-strong, shatterproof, durable and large enough to be seen by an entire class. But, it must also be lightweight and small enough for any teacher to carry with one hand. Other contradictions occur when considering the number and nature of objects to be included within the case. Teachers need and want as many objects in the classroom as possible. From an administrative point of view, however, it is impractical to offer boxes of innumerable loose objects to schools, especially fragile or irreplaceable items. Also, boxes of loose material require far

more time to re-examine each time they are returned to the museum. Such a problem could create a clerical bottleneck at the museum that might slow down exhibit distribution.

The hinge case is a satisfactory compromise to all the apparent contradictions. With this case a large exhibit may fold into half of its overall dimensions for carrying. The pine and plexiglass construction are durable yet keep the overall weight to a maximum of 30 pounds. Most objects are permanently mounted to the case beneath plexiglass, but a drawer is included for less valuable or replaceable items that children may safely handle. Loose objects are then kept to an essential minimum for efficient processing of loans. The new case offers a larger exhibit area that emphasizes and at the same time protects objects.

Two exhibits have already been completed in this new form by the education division artist, Mr. Edward G. Cornwell, Jr. "The Homespun Age" and "Prehistoric Iroquois, circa 1400" have been warmly received by teachers. Closely related to the new social studies curriculum for New York State, both exhibits help to recreate our region's history in the classroom, with real objects.

The Homespun Age exhibit recre-

Continued on page 181



## Gifts to the Museum July, August, September 1966

**Mr. Warren Beck**

One pair of wooden harness hooks.

**Mrs. John Benjamin**

One hair rope.

**Miss Carolyn M. Castle**

Tortoise shell combs, hatpins, a silk purse, a watch fob with compass/watch combination, box of beads, kid gloves, milk glass lamp globes.

**Mr. Edward G. Cornwell, Jr.**

One book, "Individually Yours" by Celeste Carlyle.

**Mr. William Cornwell**

"The Journal of Egyptian Archaeology," Dec. 1963.

**Mrs. Claude Emery**

One wedding dress and matching slippers, a gown, dolman and fan.

**B. Forman Co.**

One gown from the Italian festival 1965.

**Mr. Orman T. Franke**

Household equipment, collection of textiles, clothing, photographs, books and wallpaper.

**Mrs. Murray M. Gilbert**

Collection of spectacles, spectacle case.

**Mrs. Ella P. Greene**

One hat, collection of trimmings, pressed glass perfume bottle, traveling ink well, a fan, crocheted purses, combs, collection of clothing.

**Mrs. Kenneth Hollister**

One drape, table napkins, vases, canes, daguerreotypes, Civil War documents, baby clothes and clippings.

**Mrs. Elston F. Holton**

Collection of spectacles.

**Miss Grace Howie**

Two plates.

**Miss Alice Hutchinson**

Collection of Genesee Scrapbooks, collection of books and pamphlets, fabrics and textiles, collection of pictures, Christmas cards and calendars, one jacket.

**Miss Winifred Hyslop**

One pin cushion, Italian linen embroidery, one quilt.

**Mr. John Iler**

Collection of ceramic fragments.

**Mr. Alfred C. Jackson**

Two muskets, a 19th century rifle, Mexican War sword, sabre, revolvers, bow and arrows, war club.

**Mrs. Louis H. Johnston**

Clothing, collection of pictures, copies of "Cora Scovil's Lady's Book," one bust of Cora Scovil Johnston of bronze.

**Dr. Katherine Koller**

Clothing, textiles, lace and ivory fan, collection of lace patterns, needle case button hook, baskets, card of mother-of-pearl.

**Mrs. Norma Lonthall**

Collection of pictures, ice cream dip, rattle, hatpin, purses, toy and eye glasses.

**Mr. Edward A. Mau**

One partial skeleton.

**Mr. Chris Metcalfe**

One bayonet.

**Mrs. Richard Mitchell**

Collection of Sears catalogues and Spiegel catalogues.

**Mr. and Mrs. Warner Palmer**

Two false faces, one prehistoric Iroquois clay pipe.

**Mrs. W. Franklin Plumley**

Two combination pen and pencil holders.

**Mrs. Fanella Porter**

Clothing, textiles, a rug punch.

**Mrs. S. T. Pressley**

Baby Shoes, one tintype, photograph.

**Miss Lois Pringle**

Collection of knives and a fork, crocheted purse, wooden ink well stand and two ink wells, photographs, clothing, a tin box and three books.

**Mr. Clinton B. Raymond**

One apple carton, berry baskets, augers, hay knives, flail, three railroad tickets.

**Mr. and Mrs. James B. Reveley**  
One bottle of medicinal cordial.

**Mr. George Saulpaugh**  
Collection of silver and silver-plate utensils.

**Miss Anna G. Schafer**  
A New York Herald 1865, collection of valentines, and a Citizenship Certificate of James D. Cook.

**Mr. Isaac Schyve**  
One mandarin duck.

**Miss Wilma J. Shili**  
Two pairs of golf knickers, two hat boxes.

**Mrs. Marjorie M. Siebert**  
Collection of gowns, one evening bag and its original box.

**Mrs. Arthur Smith**  
Collection of theater programs and menus.

**Mr. Leon Spears**  
One broad axe, a cobbler's boot, one steelyard.

**Mr. Frederick C. Spitz**  
One portrait brooch, a beaded purse, moss agate ring, mantel vases.

**Miss Barbara Stern**  
Collection of clothing.

**Mrs. Audley D. Stewart**  
One Civil war uniform and cap.

**Mrs. Robert Titus**  
Collections of clothing, china, toys, coins, pottery, candlesticks and a doll.

**Mrs. Ruth Piper Transue**  
Collection of clothing.

**Mr. and Mrs. John VanCampen**  
Collection of clothing, textiles, buttons, crochet hooks, flowers, an American flag, and a pair of sunglasses.

**Mrs. Jerome Weltzer**  
One calendar towel 1965 and a pair of Oxford spectacles.

**Miss Phoebe Wheeler**  
One doll, a scarf and a card of trimming.

## Circulating Exhibits

Continued from page 179

ates early 19th century life with fifteen representative objects. A woven homespun coverlet, children's sampler, weaver's bobbin and tin candle mold illustrate that this was an age of handicrafts in pre-industrial America. A colorful share of local railroad stock and a daguerreotype indicate new innovations of that period. For children to handle, a shot pouch, sewing bird and an ox shoe are available.

In the Prehistoric Iroquois case children can visualize the different roles of men and of women in the pre-white contact Iroquois culture of 1400 A.D. Objects used by men in their role as hunters or for fishing or recreation, and bone, clay and stone objects in daily use by women illustrate specialized tasks. The drawer contains im-

plements of stone which children may touch.

A third case now in construction will portray the effects upon the Iroquois of their contact with a European culture. "Historic Iroquois c. 1680 A.D." will pair archeological fragments of clay pots with brass trade pots, or arrow heads with a rusted rifle flintlock. With these and other examples, children can see how trade changed the Iroquois way of life.

Providing the classroom teacher with such objects, no matter how attractive they may be, is not enough to insure that they will be used effectively in the classroom. The museum will also provide written materials that describe the objects in depth and offer suggestions for their use in the classroom.

# Rochester Museum Association Presents . . .

## Travel Tracks • Rochesterians Explore the World

Wednesday, November 16, 8:15 p.m.—**FOLLOWING THE OREGON-CALIFORNIA TRAIL** with John A. Leermakers, Vice-President and director of Kodak Research Laboratories, Eastman Kodak Company

Wednesday, December 7, 8:15 p.m.—**MAN AND NATURE IN THE ARCTIC AND AFRICA**, photographic safari with Ray Hickok, president of Hickok Manufacturing Co.

Wednesday, January 11, 8:15 p.m.—**FLOWER HUNTING IN THE GREEK ISLES** with Robert E. Stauffer, Research Laboratories, Eastman Kodak Company

## Audubon Wildlife Films • Personally Narrated

Saturday, November 19, 10:30 a.m.—**NEW ZEALAND SPRING** by Olin Sewall Pettigill, Jr., director of Cornell University Laboratory of Ornithology

Saturday, January 7, 10:30 a.m.—**THE UNTAMED OLYMPICS** by Walter H. Berlet, photographer-naturalist from Casper, Wyoming

## SPECIAL EXHIBITIONS

- |           |  |
|-----------|--|
| 1st Floor | <b>Birds' Eggs</b> —from Ostrich to Humming Bird. Mounted land birds.<br>Through Spring, 1967  |
| Mezzanine | <b>"Johnny Tremain" and the American Revolution</b> —historical objects, china, silver, costumes, maps, books, pictures. Through January 1967<br><b>Christmas Customs of Other Lands and How an Exhibit is Made</b> —project of Junior Guides.   |
| Library   | <b>East Avenue in Retrospect</b> —pictorial review of the peaceful, turbulent, glamorous and glorious times of the Avenue. Through February, 1967  |
| 2nd Floor | <b>Tools of the Trade</b> —the hunt, the professions, communication, the craftsmen and the tradesmen. Through December<br><b>Auburn Bird Pictures</b> —process of printing pictures from plates. Lent by Heritage Publishing Co. December-January 1967<br><b>Kachina Dolls</b> —selected from museum's collection (one-case display). Through January 1967 |
| 3rd Floor | <b>Quilts</b> —history of handmade bed covering over a period of 200 years. To March, 1967<br><i>One-case display:</i> <b>Christmas Trees of the Mid-19th Century.</b> Through December  |

## MUSEUM HOURS

9 a.m. to 5 p.m.

2 p.m. to 5 p.m. Sundays

Closed for the Holidays

Christmas, December 25, 26 • New Year's, January 1, 2

## Meetings in the Museum

Academy of Science		
Astronomy Section	1st Friday, Oct.-June	8 p.m.
Botany Section	2nd Tuesday, Nov.-March	8 p.m.
Mineral Section	3rd Tuesday, Oct.-May (No meeting in December)	8 p.m.
Ornithology Section	2nd Wednesday, Sept.-June	
Antiquarian League	4th Tuesday, Oct.-April (No meeting in December)	8 p.m.
Antiquarian Study Group	2nd Friday, Oct.-June	1:30 p.m.
Aquarium Society	1st Wednesday, Sept.-June	8 p.m.
Burroughs Audubon Nature Club	2nd and 4th Friday, Nov.-Apr. (No meeting in December)	8 p.m.
Button Club	3rd Tuesday, Sept.-May	1 p.m.
Cage Bird Club	1st Thursday, Sept.-June	8 p.m.
Dahlia Society	1st Thursday, Sept.-June	8 p.m.
Genesee Cat Fanciers Club	1st Wednesday, Sept.-June	8 p.m.
Genesee Valley Antique Car Society	3rd Friday, Nov.-Apr. (No meeting in January)	8 p.m.
Genesee Valley Gladiolus Society	3rd Thursday, Sept.-June	8 p.m.
Genesee Valley Quilt Club	Last Thursday, Sept.-May (3rd Thursday, Nov.-Dec.)	10:30 a.m.
Hobby Council	2nd Tuesday, Sept.-May	8 p.m.
Jr. Numismatic Club	3rd Friday, Sept.-June	7:30 p.m.
Jr. Philatelic Club	1st and 3rd Thursday, Sept.-May	7:30 p.m.
Men's Garden Club	4th Wednesday, Sept.-June	8 p.m.
Monroe County Hooked Rug Guild	3rd Wednesday, Sept.-May	10 a.m.
Morgan Chapter, N.Y.S.A.A.	2nd Friday, Sept.-June	7:30 p.m.
Numismatic Ass'n	2nd and 4th Tuesday, Sept.-June	8 p.m.
Philatelic Ass'n	2nd and 4th Thursday, Sept.-June	8 p.m.
Rochester Rose Society	1st Tuesday, Oct.-June	8 p.m.
Seneca Zoological Society	4th Wednesday, Sept.-June	8 p.m.

## Sunday Family Programs — Movies 2:30 and 3:30 p.m.

Nov. 6—Voyageur Country and The Cave Community.

Nov. 13—Que Puerto Rico and Volcanoes.

Nov. 20—Indian Days, The Byzantine Empire and Rocks that Reveal the Past.

Nov. 27—Africa is My Home and Nature of Sound.

Dec. 4—Clouds Above and Venice: Theme and Variation.

Dec. 11—Boy of the Seminoles, Galileo and Our Animal Neighbors.

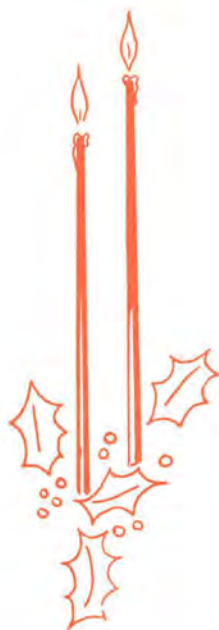
Dec. 18—Christmas on Grandfather's Farm, Christmas Cracker and Christmas Fantasy.

ROCHESTER MUSEUM OF ARTS AND SCIENCES  
657 East Avenue    Rochester, New York 14607

NON-PROFIT ORG.  
U. S. POSTAGE

Permit No.  
Rochester, N. Y.

Return Requested



## Christmas Bazaar

DECEMBER 1 AND 2

Once again the Women's Council of the Rochester Museum Association is presenting new and exciting ideas for your Christmas shopping. Their annual Christmas Bazaar will be held in the main hall of the Museum from 9 a.m. to 8:30 p.m. on Thursday, December 1 and from 9 a.m. to 3 p.m. on Friday, December 3.

Among the many inviting items will be holiday candies in gift tins, Christmas decorations with unusual and distinctive appeal, an even wider assortment of the ever popular baskets, exotic gifts from faraway places and more than 100 items of toys ranging from \$1.00 to \$3.00 on the popular "Stocking Stuffer" tables.

Plan to come early and enjoy **THE MUSEUM SHOP!** Exquisite gifts from around the world. Fascinating items for the young. Monday through Friday 10 a.m. to 5 p.m. Saturday 10 a.m. to 4 p.m. Sunday 2 p.m. to 5 p.m.